

EFFECTIVE
06-14-2023

NEBRASKA DEPARTMENT OF
HEALTH AND HUMAN SERVICES

178 NAC 24

TITLE 178

ENVIRONMENTAL HEALTH

CHAPTER 24

METHAMPHETAMINE CLEANUP

001. SCOPE AND AUTHORITY. These regulations establish procedures that a property owner must follow in the decontamination of methamphetamine contaminated property. Authority for these regulations is found in Nebraska Revised Statute (Neb. Rev. Stat.) §§ 71-2432 to 71-2435.

002. DEFINITIONS. Definitions set out in Neb. Rev. Stat. § 2432 to 71-2324 and the following apply to this chapter.

002.01 ABSORPTION FIELD. A series of trenches containing coarse aggregate gravel or crushed stone into which a perforated or open joint pipe is placed. Discharge from a septic tank is distributed through these pipes into the trenches and the surrounding soil.

002.02 AIR DISTRIBUTION SYSTEM. The heating and air-conditioning system.

002.03 ALKALINE. A solution with a potential hydrogen (pH) greater than 7.0, or a basic, non-acidic solution.

002.04 ASBESTOS. Asbestiform varieties of chrysotile, crocidolite, amosite, anthophyllite, tremolite and actinolite.

002.05 BACKGROUND CONCENTRATION. The level of a chemical substance collected from environmental media that is naturally occurring or is not associated with methamphetamine production at a site or is less than existing State regulatory or risk-based standards, or both.

002.06 CERTIFIED HAZARDOUS MATERIALS MANAGER (CHMM). An individual who has been certified by and is in good standing with the Institute of Hazardous Materials Management as a certified hazardous materials manager (CHMM).

002.07 CHAIN OF CUSTODY (COC). A procedure used to document each person that has had possession or control of an environmental sample from its collection to analysis.

002.08 CHEMICAL OF POTENTIAL CONCERN (COPC). An element or compound collected from environmental media that is being assessed to determine if it is a health concern for humans in contact with it. Chemicals of potential concern may include reagents and products used in the manufacturing and production of methamphetamine, including, but not limited to methamphetamine, its salts, optical isomers, and salts of its isomers.

002.09 CONFIRMATION SAMPLING. Verifying by on-site or laboratory analysis, or both, that the concentration of a chemical of concern is below a State regulatory or risk-based standard, or both, by collecting samples of environmental media.

002.10 CONTAMINANT. A chemical of potential concern present at a site in environmental media that is present above State regulatory and risk-based standards.

002.11 CONTAMINATION. The presence of a chemical or chemicals of potential concern at a site in environmental media that is present above State regulatory or risk-based standards, or both.

002.12 COOKING AREA. The specific location within a structure where methamphetamine was prepared.

002.13 DECONTAMINATION. To treat or remove a contaminant, or contaminants to reduce concentrations below State regulatory or risk-based standards, whichever is the most conservative.

002.14 DECONTAMINATION CONSULTANT. A certified hazardous materials manager (CHMM) or an individual with experience in environmental site assessment and decontamination whose work-plan is approved by a certified hazardous materials manager (CHMM).

002.15 EMULSIFIER. Emulsifier is an additive that promotes the formation of a stable mixture or emulsion of ingredients that do not normally bind together, for example, oil and water. An emulsifier is a type of surfactant.

002.16 ENVIRONMENTAL MEDIA OR MEDIUM. Soil, air, water, or substances collected from wiping indoor surfaces, countertops, or flooring.

002.17 HIGH-EFFICIENCY PARTICULATE AIR (HEPA). A filtering system which includes a specially constructed filter membrane capable of capturing 99.97% of particles, typically as small as 0.3 microns or 300 nanograms per cubic meter (ng/m³).

002.18 IMMUNOASSAY. A laboratory technique that makes use of the binding between an antigen and its homologous antibody to identify and quantify a substance.

002.19 PERSONAL PROTECTIVE EQUIPMENT LEVEL C. Personal protective equipment to that includes disposable outerwear that is hooded and poly-coated to protect against the permeation of liquids and gases, that is ASTM F1001 certified; a full-face or half-mask with air purifying combination respirators for particulates, gases and vapors, that is approved by the National Institute of Occupational Safety and Health; 2 pairs of chemical-resistant gloves both inner and outer; and chemical resistant boots. Personal protective equipment is designed to prevent or minimize ingestion, inhalation, and dermal contact exposure to contaminants.

002.20 PHENYL-2-PROPANONE (P2P). A method used to manufacture and produce methamphetamine. Phenyl-2-propanone is a chemical precursor of methamphetamine.

002.21 PHOTO IONIZATION DETECTOR. A portable gas detector used to identify the presence of volatile organic compounds, toxic and combustible gases.

002.22 POROUS. Surfaces at a site, countertops, flooring, drywall, and fabrics which may be susceptible to permeation by liquids, gases or powders.

002.23 POTENTIAL HYDROGEN (pH). A measure, on a scale from 0 to 14, of the acidity, less than 7.0, or alkalinity, greater than 7.0 of a solution where 7.0 is considered neutral.

002.24 PRECURSOR. A chemical or compound that precedes the formation of the final chemical or compound in a sequence of chemical reactions.

002.25 PROPER DISPOSAL. The discarding of precursors, reagents, contaminated environmental media, and other items found at the site according to.

002.26 PROPERTY OWNER OR OWNERS. The owner or owners of record, who is or are the titleholder or holders of the property as shown in county records.

002.27 REAGENT. A chemical substance used to produce a chemical reaction to detect, measure or produce other substances.

002.28 RISK-BASED STANDARD. A concentration of a chemical substance that is not to be exceeded in a particular environmental medium or at a site, or both, to reduce the potential for adverse health effects as a result of exposure.

002.29 SEPTIC SYSTEM. A domestic wastewater treatment system, consisting of a septic tank and a soil absorption system. Waste is piped directly from the structure into the system where bacteria decompose the waste, sludge settles to the bottom of the tank, and the treated effluent flows out into the soil absorption field through drainage pipes.

002.30 SHARPS. Hypodermic needles.

002.31 SITE. An enclosed area of any property or portion intended for human habitation or use that has been used for the manufacturing and production of methamphetamine that has been contaminated by chemicals of potential concern.

002.32 SOLVENT. A substance, water or another liquid that is capable of dissolving or dispersing one or more other substances.

002.33 SURFACTANT. A chemical that reduces surface tension at the interface between oil and water molecules, keeping the mixture from separating into layers.

002.34 VENTILATION SYSTEM. Any system within a structure that is designed to vent indoor air to the outdoors.

002.35 VOLATILE ORGANIC COMPOUNDS. Chemicals that typically have high vapor pressures and can evaporate easily at ambient or room temperature.

002.36 WIPE KIT. Sterile gauze pads, filter papers, solvents, templates, gloves, and other items used to test for methamphetamine at the site.

003. LOCAL PUBLIC HEALTH DEPARTMENT. The local health department must:

003.01 NOTIFICATION. Notify and provide the property owner with a copy of these regulations to ensure that proper posting and restrictions to the property are in place as soon as possible.

003.02 MONITORING SITES. Monitor the property to ensure all openings to the site are posted with warning signs until the property has been properly decontaminated and released for human habitation.

004. SITE PREPARATION FOR DECONTAMINATION. The contaminated property must be prepared for decontamination as follows:

- (A) The local public health department must provide appropriate warning signs to the property owner, and ensure that the warning signs are posted prominently at all points of entry into the site;
- (B) The signs must state that the property has been contaminated with hazardous materials;
- (C) Warning signs must remain in place until the local public health department has released the property for human habitation;
- (D) Access to the site must be restricted by the property owner to only those individuals directly responsible for implementing the decontamination procedures;
- (E) The air distribution system must be isolated between the decontamination area and other residential units, if applicable, to ensure airborne contamination cannot be carried into other areas. The decontamination area may include one or more units or the entire complex;
- (F) Openings, such as doors, must be sealed off between the decontamination area and other areas that have not been contaminated using polyethylene sheeting with a minimum thickness of 4-mil (0.004 inch) to provide a moisture and vapor barrier;
- (G) The structure must be aired out for a minimum of 72 hours before beginning decontamination. The building's windows must be opened, and exhaust fans must be used to move air out of the structure. The structure must remain secure from unauthorized entry during this process; and
- (H) A visual inspection of the contaminated property must be completed to determine the specific locations where clandestine laboratory chemicals were manufactured, stored, or disposed of. The results of the visual inspection must be documented and include a description of:
 - (i) Hazardous chemicals or chemical storage tanks, or both that are present at the site;
 - (ii) The air distribution system;
 - (iii) The ventilation system or systems;
 - (iv) The water supply system if a private well is present;
 - (v) The plumbing and septic system;
 - (vi) Stained porous surfaces;
 - (vii) Burn pits or trash piles; and
 - (viii) Areas of suspected soil contamination.

004.01 DECONTAMINATION WORK PLAN. As part of performing the decontamination, the property owner or a decontamination consultant must provide the local public health department with a written decontamination work plan. The plan must include:

- (A) A detailed site map with floor plan to scale;
- (B) A description of the health and safety procedures that will be followed, including the use of personal protective equipment to be worn while in or on the contaminated portion of the property;
- (C) A detailed summary and photos of all locations where decontamination will occur;
- (D) A detailed summary of all procedures to be employed removing contamination or cleaning the site to minimize human exposure; and
- (E) A schedule outlining the timeframe for completing the decontamination.

005. REQUIREMENTS DURING THE PERFORMANCE OF THE SITE DECONTAMINATION.

The property owner or the decontamination consultant must:

- (A) Obtain written approval of the decontamination work plan from the local public health department. The property owner or decontamination consultant must follow and meet the timeframes for completion as set forth in the approved work plan;
- (B) Restrict access of the contaminated property to only those individuals directly involved in implementing and monitoring the decontamination activities;
- (C) Notify and make aware all individuals directly involved in implementing and monitoring the decontamination activities of the health hazards at the contaminated property and follow the approved health and safety procedures;
- (D) Require each individual who enters the contaminated property to sign in;
- (E) Maintain sign-in sheets for the duration of the decontamination project and make them available to the local public health department when requested;
- (F) Require all individuals who enter the work area to use personal protective equipment providing Level C protection. Personal protective equipment must be worn to prevent or minimize ingestion, inhalation, and other routes of contact exposure with contaminants;
- (G) Require all individuals, before leaving the work area to:
 - (i) Remove all disposable outer clothing;
 - (ii) Place clothing in a plastic bag; and
 - (iii) Properly dispose of them;
- (H) Clean the surfaces of all tools and equipment used in the work area prior to removal from the contaminated property; and
- (I) Contact the local public health department and the Nebraska Department of Environment and Energy to determine how to appropriately dispose of all contaminated materials, waste and debris from the site according to applicable waste regulations.

006. SITE DECONTAMINATION. A property owner who performs site decontamination must contact the local public health department to ensure all applicable local, state, and federal regulations are complied with in the decontamination process.

006.01 PHASE 1 – REMOVAL OF ITEMS FOR DISPOSAL. In order to remove items for disposal, the property owner or a decontamination consultant must:

- (A) Complete a thorough assessment of the property for sharps. Care must be taken to identify sharps that are hidden or stored in obscure places that pose a hazard to decontamination workers. Sharps must not be handled directly. Tongs or pliers must

- be used to pick up sharps. Sharps must be placed in a labeled puncture-proof container and sealed for proper disposal;
- (B) Remove all household chemical products. Some materials require special handling and disposal. The local public health department and the Nebraska Department of Environment and Energy must be contacted for guidance on identifying, handling, and disposal of these substances;
 - (C) Remove and dispose of all general site debris;
 - (D) Remove and dispose of all items that cannot be properly decontaminated. These items include but are not limited to:
 - (i) Window mounted air conditioning units;
 - (ii) Ceiling fans; and
 - (iii) Drop in or acoustic ceiling tiles;
 - (E) Remove and dispose of all fabric items from the cooking area. No attempt must be made to remove stains from porous fabric items or other items that can be easily disposed of;
 - (F) Place debris, fabric items from the cooking area, and items that cannot be properly decontaminated, as listed in this chapter, in a container. The container must not be accessible to the public when placed outside of the structure. Dumpsters must be covered and locked while awaiting disposal; and
 - (G) Disconnect electricity to the contaminated area, if possible. All electrical outlets and light fixtures must be covered to prevent exposure to water during cleaning.

006.02 PHASE 2 – CLEANING PROCEDURES. The property owner or decontamination consultant must adhere to the following cleaning procedures.

006.02(A) RECONTAMINATION PREVENTION. One room must be cleaned at a time. When complete, the door must be closed, and the room isolated to prevent recontamination.

006.02(B) CLEANING SOLUTION. A water-based mixture with a potential hydrogen (pH) greater than 7 must be used to remove the oily residue that remains after cooking methamphetamine and for neutralizing many of the remaining chemicals.

006.02(C) AIR DISTRIBUTION SYSTEM AND VENTILATION SYSTEMS. The procedures for cleaning air distribution and ventilation systems are as follows:

- (i) The air distribution system and ventilation systems must be turned off and remain off throughout the decontamination process;
- (ii) All air filters must be removed and properly disposed of;
- (iii) All air registers must be removed and cleaned with detergent and water solution and rinsed thoroughly. This procedure must be repeated two additional times, using new detergent solution and rinse water each time;
- (iv) A fan-powered high-efficiency particulate air (HEPA) filtration system must be connected to the ductwork to develop negative air pressure to aid in removal of particulates;
- (v) Rotary brushes or other forms of mechanical agitators must be inserted into all ductwork openings to loosen and remove particulates;

- (vi) All ductwork openings must be sealed off using polyethylene sheeting with a minimum thickness of 4-mil (0.004 inch) thickness to prevent recontamination until further decontamination work at the site has been completed;
- (vii) After cleaning, the decontamination consultant must test surfaces in the air distribution system and the ventilation systems for the presence of methamphetamine; and
- (viii) The decontamination consultant must provide the results to the local public health department.

006.02(D) REMOVABLE ITEMS. The procedures for cleaning removable items are as follows:

- (i) All removable items that are not disposed of must be cleaned by both high-efficiency particulate air (HEPA) vacuuming and, following all manufacturers' guidelines, one of the following methods:
 - (1) Steam cleaning with a hot water and detergent solution and extraction by wet vacuum;
 - (2) Wash in a washing machine or dishwasher with hot water and a detergent solution; or
 - (3) For non-porous surfaces only, wash by wiping down with hot water and an alkaline aqueous cleaning solution;
- (ii) Items as described in 178 NAC 24-006.03(D)(i) must then be moved out of the room prior to continuing with decontamination of the ceiling, walls, and floors;
- (iii) After cleaning, the decontamination consultant must test all items for the presence of methamphetamine; and
- (iv) The decontamination consultant must provide the results to the local public health department.

006.02(E) SURFACE CLEANING. The procedures for cleaning of surfaces are as follows:

- (i) Other than concrete flooring, the floor of the room must be covered with polyethylene sheeting with a minimum thickness of 4-mil (0.004 inch) and taped onto the baseboard to contain excess solution while rinsing the ceiling and walls;
- (ii) An alkaline aqueous cleaning solution must be applied to all remaining exposed surfaces, ceilings, walls, doors, windows, and closets. A sprayer must be used for applying the cleaning solution. The solution must be left on the surfaces for a minimum of 10 minutes prior to removal;
- (iii) Beginning at the ceiling, all surfaces must be scrubbed, including walls, windows, doors, and closets;
- (iv) An extraction machine, similar to a carpet-cleaning machine that simultaneously rinses and collects the rinsate in the attachment, or pressure washer must be used to rinse and extract the contamination from the scrubbed surfaces. Heated water must be used to effectively remove the oily residue. Two decontamination workers must be used, one to rinse and the other to wet vacuum. Rinsing and extraction must be completed in one direction to remove contamination without redistributing it to decontaminated areas;
- (v) The polyethylene sheeting must then be removed, and the decontamination process repeated for the floor. Rinsing and extraction must be completed in one direction to remove contamination without redistributing it to decontaminated areas;

- (vi) Adjustment of the potential hydrogen (pH) and dilution may be required before disposal of the extracted liquid to a drain. The local public health department and the Nebraska Department of Environment and Energy must be contacted prior to disposal;
- (vii) When the cleaning procedures are complete, the windows to the structure must be opened, and fans set up to ventilate the site for a minimum of 24 hours, to draw out excess moisture generated during the cleaning procedures;
- (viii) After cleaning, the decontamination consultant must test surfaces for the presence of methamphetamine; and
- (ix) The decontamination consultant must provide the results to the local public health department.

006.02(F) PLUMBING AND SEPTIC SYSTEM CLEANING. The procedures for cleaning plumbing and septic systems are as follows:

- (i) The accessible plumbing components, traps, where chemicals of potential concern have been disposed of must be cleaned and tested to meet the standards specified in this chapter; and
- (ii) The septic system, if present, must be pumped as part of the decontamination. The system must be pumped prior to site cleaning and again after completion of site decontamination to avoid overflow into the absorption field. Nebraska Department of Environment and Energy regulations must be met to protect ground water. Additional oversight by the Nebraska Department of Environment and Energy may be required.

006.02(G) SOIL DECONTAMINATION. The procedures for decontaminating soil are as follows:

- (i) To ensure compliance with Nebraska Department of Environment and Energy regulations, the Nebraska Department of Environment and Energy must be consulted regarding removal of contamination in, or decontamination of:
 - (1) Burn areas;
 - (2) Trash areas; and
 - (3) Dump sites;
- (ii) If soil or ground water cleanup is required, the cleanup standards selected must be:
 - (1) At or below background concentration; or
 - (2) Equal to or less than state regulatory standards of 178 NAC 24-009, if applicable, and if not applicable, federal risk-based standards outlined in the United States Environmental Protection Agency Risk-Based Concentrations Table for residential, or if relevant, industrial exposure. The United States Environmental Protection Agency table is available for viewing at the following web address: <https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables>; and
- (iii) Alternative values may be proposed but approval is required by the Nebraska Department of Environment and Energy.

007. CONFIRMATION SAMPLING. A decontamination consultant must collect confirmation samples for analysis after completion of the decontamination procedures. Samples collected for

offsite quantitative laboratory analysis, versus onsite semi-quantitative immunoassay, must be analyzed using United States Environmental Protection Agency modified method #8270. This document is available for viewing at the Department of Health and Human Services, Division of Public Health, Environmental Health, 301 Centennial Mall South, Lincoln, Nebraska 68509. Confirmation sampling is required to ensure that concentrations of the chemicals of potential versus concern are not present at the site above the standards required in 178 NAC 24-009. If the standards are not achieved, the property owner or a decontamination consultant must perform additional decontamination until these standards are met.

007.01 PROCEDURES. Confirmation sampling procedures are as follows:

- (A) All sample locations must be photographed;
- (B) Samples must be collected from all areas identified in this section following the sampling procedures outlined in this section;
- (C) All samples must be collected by strict adherence to the sample kit or laboratory instructions;
- (D) At a minimum, one sample media blank, treated in the same fashion but without wiping, must be submitted for every ten samples collected;
- (E) All samples must be obtained, handled, and preserved under a chain of custody (COC) procedure;
- (F) All samples must be labeled with the:
 - (i) Site address;
 - (ii) Sample location;
 - (iii) Sample number;
 - (iv) Date and time of collection; and
 - (v) Name of sample collector; and
- (G) All samples must be analyzed for methamphetamine.

007.02 AIR DISTRIBUTION SYSTEM AND VENTILATION SYSTEMS. Confirmation sampling procedures for air distribution system and ventilation systems are as follows:

- (A) A wipe kit as specified in 178 NAC 24-002 must be used to collect the confirmation sample;
- (B) At a minimum, one 100 square centimeter wipe sample must be collected and analyzed from the ductwork directly inside the inlet of the air distribution system, (where air is brought into the system, as opposed to a vent where air is forced back out of the system. A sample must also be collected and analyzed from within the first 12 inches of each ventilation system; and
- (C) Disposable templates or masking tape must be attached to the area to be sampled. The sample area must not be touched prior to collection of the sample. The template must be left in place until the test results are known.

007.03 REMOVABLE ITEMS AND SURFACES. Confirmation sampling procedures for removable items and surfaces are as follows:

- (A) A wipe kit as specified in 178 NAC 24-002 must be used to collect the confirmation sample;
- (B) At a minimum, one 100 square centimeter wipe sample must be collected and analyzed from:
 - (i) All surfaces in the cooking area, ceiling, floor, each wall, and countertops;
 - (ii) Each room or area at the site potentially impacted by contamination;

- (iii) Each room or area served by the air distribution system; and
- (iv) From all removable items that the property owner would like to retain;
- (C) At a minimum, one sample media blank, treated in the same fashion but without wiping, must be submitted for every ten samples collected; and
- (D) Disposable templates or masking tape must be attached to the area to be sampled. The sample area must not be touched prior to collection of the sample. The template must be left in place until the test results are known.

007.04 PLUMBING AND SEPTIC SYSTEMS. Confirmation sampling procedures for plumbing and septic systems are as follows:

- (A) All accessible plumbing must be tested for volatile organic compounds, using instrumentation such as a photo ionization detector to determine if there are potentially harmful or combustible gases present. Instrument manufacturer guidelines must be followed for use and analysis of total volatile organic compounds. The equipment probe must be held in the plumbing pipe above the trap for a minimum of 60 seconds; and
- (B) The Nebraska Department of Environment and Energy must be consulted to determine required confirmation sampling for the septic system. A sample of the septic tank liquid, if applicable, must be collected and analyzed for the site chemicals of potential concern.

007.05 MERCURY. Confirmation sampling procedures for mercury presence in indoor air are as follows:

- (A) If the cooking method is unknown or is known to be the phenyl 2 propane (P2P) method, confirmation sampling of indoor air must be performed using a mercury vapor analyzer, to analyze for the presence of mercury;
- (B) The indoor temperature of the structure must be documented and maintained between 75 and 80 degrees Fahrenheit throughout the sampling; and
- (C) At a minimum, one real time confirmation sample for mercury analysis must be collected in each room on the level of the structure where the methamphetamine cooking area was located, from a breathing zone height of between three to four feet from ground level. All collection locations must be documented.

008. REPORTING. This section addresses the requirements for reporting the confirmation sampling results and releasing the property.

008.01 RELEASING THE PROPERTY. The decontamination consultant must submit the confirmation sampling results to the local public health department. If the results do not indicate the levels of contaminants have been reduced to meet the standards, the decontamination process must be repeated, and samples taken in those rooms or areas of concern. The local health department must write a letter to the property owner, releasing the property, if the test results meet the standards outlined in these regulations.

009. DECONTAMINATION STANDARDS. The standards listed below must be met before the local health department can release the property for human habitation and commercial or other use.

Method	Chemical	Sample Type	Decontamination Standard
Phenyl-2-propanone (P2P)	Lead (total) ¹	Surface Area Wipe	Less than or equal to 40µg/ft ²
	Mercury ²	Air	Less than or equal to 300 ng/m ³
	Methamphetamine ³	Surface Area Wipe	Less than or equal to 1.5 µg/100cm ²
	Total Volatile Organic Compounds ⁴	Air*	Less than or equal to 1 ppm
Ephedrine/ Pseudoephedrine	Methamphetamine ³	Surface Area Wipe	Less than or equal to 1.5 µg/100cm ²
	Total Volatile Organic Compounds ⁴	Air*	Less than or equal to 1 ppm
Unknown	Lead (total) ¹	Surface Area Wipe	Less than or equal to 40µg/ft ²
	Mercury ²	Air	Less than or equal to 300 ng/m ³
	Methamphetamine ³	Surface Area Wipe	Less than or equal to 1.5 µg/100cm ²
	Total Volatile Organic Compounds ⁴	Air*	Less than or equal to 1 ppm

(1) Units in micrograms of lead per square foot

(2) Units in nanograms of mercury per cubic meter of air

(3) Units in micrograms of methamphetamine per 100 square centimeters

(4) Units in parts per million

*Air from plumbing trap